

**MODULATION AND TRANSMISSION METHODS TO PROVIDE A WIRELESS
LINK AND TRANSMITTER CIRCUIT FOR PROVIDING A WIRELESS LINK**

ABSTRACT OF THE DISCLOSURE

A modulation method, transmission method, and transmitter circuit are described which may enable realization of a wireless link for ultra-high transmission rates in the downlink to users. In a method of modulating an input signal to obtain a desired intermediate signal, the intermediate signal is to be processed for transmission over a wireless link at a carrier frequency within a desired frequency band. The processing may include subjecting the intermediate signal to a frequency multiplier operation that exhibits an ambiguous transfer function. In the modulation method, an input signal is provided, and a set of signal states applicable to the desired intermediate signal are generated so that a signal output from the frequency multiplier operation has a substantially non-ambiguous relation to the desired intermediate signal. The input signal may thus be modulated according to I and Q baseband signals to obtain the desired intermediate signal with the generated set of signal states.